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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,556	03/19/2004	August Torrents Pallach	331.1051	7442

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EXAMINER

BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,556

Applicant(s)

PALLACH ET AL.

Examiner

Jennifer A. Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 16-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed July 10, 2006, have been entered and have been carefully considered. Claims 1 – 2 are amended, claims 11 – 15 are cancelled, claims 16 – 18 are added and claims 1 – 10 and 16 – 18 are pending. In view of Applicant's amendment to claims 1 and 2, the Examiner has amended the previously applied rejections below. The invention as currently claimed is found unpatentable for reasons herein below.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Drawings

3. The drawing was received on July 10, 2006 and is acceptable.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1 – 6 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Costantino et al. (EP 1,069,232).

Costantino is directed to a composition for making textile fireproof (Title).

As to claims 1 and 3 - 4, Costantino teaches a flame-resistant additive for textile materials in particular microfiber non-woven fabrics comprising a mixture of a fireproofing component and a binder comprising an aqueous dispersion of an acrylic or maleic polymer or copolymer and a multifunctional cross-linker of the acrylic or maleic polymer or copolymer (Abstract).

Costantino notes that particularly good results have been obtained with the copolymer of acrylic acid and styrene (page 4, [0030]). Costantino teaches that the composition can be applied to the non-woven by means of a transfer roller where a roller is partially immersed in the suspension of the additive from the lower part toward the top onto the back face of the material (page 5, [0047]). The Examiner submits that the composition would at least partially saturate the non-woven fabric and thus bind at least a portion of the fibers together. It should be noted that the recitation of "engine compartment lining cover layer" is not given patentable weight at this time since the prior art meets the structural and/or chemical limitations set forth and there is nothing on record to evidence that the prior art product could not function in the desired capacity. The burden is shifted upon the Applicant to evidence the contrary.

As to claim 2, Costantino teaches that the binder is cross-linked (page 4, [0031]).

As to claim 5, Costantino teaches incorporating a fireproofing component comprising melamine and melamine cyanide and a clay or other adsorbent material (page 3, [0022]).

As to claim 8, Costantino teaches that the non-woven fabric can comprise polyester (pages 1 and 5).

As to claims 1 and 2, although Costantino does not explicitly teach the claimed binder has thermoplastic behavior in the temperature range of 20 – 200 C and a thermosetting behavior

above 200 C as required by claim 1 and a binder is pre-crosslinked at a temperature of up to 200 C and cures at a temperature above 200 C as required by claim 2, it is reasonable to presume that the claimed properties are inherent to Costantino. Support for said presumption is found in the use of like materials (i.e. a binder comprising a copolymer of acrylic acid and styrene and a cross-linker) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties would obviously have been present once the Costantino product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

6. Claims 1, 3 – 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Horrocks et al. (US 5,645,926).

Horrocks is directed to fire and heat resistant materials (Title) suitable for protective and barrier fabrics structures such as transport upholstery barriers (column 1, lines 10 – 20).

As to claims 1 and 3 – 4, Horrocks teaches creating a web of VISIL fiber, covering the web with a single layer of sheath fabric and needle-punching both sides of the web. Horrocks notes that intumescent powder and bonding resin are added to the web before needling takes place (column 8, lines 10 – 20). Horrocks teaches that the intumescent powder comprises AMGARD MPC 1000 (ammonium polyphosphate) and the resin is REVACRYL 272 (acrylic and styrene/acrylic copolymer water based dispersions) (column 8, lines 15 – 30). It should be noted that the recitation of “engine compartment lining cover layer” is not given patentable weight at this time since the prior art meets the structural and/or chemical limitations set forth and there is nothing on record to evidence that the prior art product could not function in the desired capacity. The burden is shifted upon the Applicant to evidence the contrary.

As to claim 5, Horrocks teaches incorporating an intumescent agent (column 8, lines 10 – 20); the Examiner equates this to Applicant's "flame retardant agent".

As to claim 6, Horrocks teaches that the intumescent agent or flame retardant may comprise PYROVATEX (column 6, lines 55 – 70). According to Horrocks in column 10, lines 15 – 30, PYROVATEX CP is a phosphorus and nitrogen-containing flame retardant. Additionally, Horrocks teaches that the phosphorus-based flame retardant may comprise ammonium polyphosphate (column 6, lines 55 – 65) whose generic formula is known in the art to be $[\text{NH}_4\text{PO}_3]_n$. As shown by the formula, ammonium polyphosphate contains both phosphorus and nitrogen.

Although Horrocks does not explicitly teach the claimed binder has thermoplastic behavior in the temperature range of 20 – 200 C and a thermosetting behavior above 200 C as required by claim 1, it is reasonable to presume that the claimed properties are inherent to Horrocks. Support for said presumption is found in the use of like materials (i.e. a binder comprising a copolymer of acrylic acid and styrene) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property would obviously have been present once the Horrocks product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

7. Claims 1, 3 – 4, 8 and 10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sumii et al. (US 5,217,799).

Sumii is directed to a surface materials for interior materials of cars (Title).

As to claims 1 and 3 – 4, Sumii teaches a needle-punched felt impregnated with a

synthetic resin emulsion (Abstract). Sumii teaches that the synthetic resin emulsion comprises a solid component composed of a synthetic resin having a melting temperature of 100 – 180 degrees C such as styrene-acrylic resin emulsions (column 3, lines 1 – 15). It should be noted that the recitation of “engine compartment lining cover layer” is not given patentable weight at this time since the prior art meets the structural and/or chemical limitations set forth and there is nothing on record to evidence that the prior art product could not function in the desired capacity. The burden is shifted upon the Applicant to evidence the contrary.

As to claim 8, Sumii teaches that the needle-punched felt can comprise polyester, polyamide and other synthetic fibers (column 2, lines 25 – 40).

As to claim 10, Sumii teaches that a hot-melt fiber web is formed on the synthetic resin emulsion impregnated surface of the needle-punched felt (column 3, lines 45 – 60). The web comprises fiber such as polyolefin (column 3, lines 45 – 64). The web can have a form of a film (column 3, lines 63 – 67). The Examiner equates the hot-melt fiber web to Applicant’s “coating”.

Although Sumii does not explicitly teach the claimed binder has thermoplastic behavior in the temperature range of 20 – 200 C and a thermosetting behavior above 200 C as required by claim 1, it is reasonable to presume that the claimed properties are inherent to Sumii. Support for said presumption is found in the use of like materials (i.e. a binder comprising a copolymer of acrylic acid and styrene) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties would obviously have been present once the Sumii product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

8. Claims 1 – 4 and 8 – 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over GB 1,054,877.

GB 1,054,877 is directed to a self-extinguishing bonded non-woven fabric (Title).

As to claims 1 - 4, GB 1,054,877 teaches a non-woven fabric bonded with a binding agent based on acrylic esters and/or butadiene (page 1, lines 20 – 30 and 40 – 50). GB 1,054,877 teaches that the polymers may comprise reactive groups which have a crosslinking effect under the influence of heat and/or catalysts (page 1, lines 54 – 56). It should be noted that the recitation of “engine compartment lining cover layer” is not given patentable weight at this time since the prior art meets the structural and/or chemical limitations set forth and there is nothing on record to evidence that the prior art product could not function in the desired capacity. The burden is shifted upon the Applicant to evidence the contrary.

As to claim 8, GB 1,054,877 teaches that the nonwoven fabric can comprise fibers such as cotton, rayon, polyester, polyamides, polyacrylonitrile, etc. (page 1, lines 30 – 40).

As to claim 9, GB 1,054,877 teaches that the nonwoven fabrics based on polyamides or polyesters are bonded with binder that is twice to four times the weight of the nonwoven and fabrics based on cotton or rayon are bonded with a binder that is once to twice the weight of the nonwoven (page 2, lines 30 – 45). The fabric in the Examples is 50 grams per square meters which meets the mass per unit area as required by Applicant.

As to claims 1 and 2, although GB 1,054,877 does not explicitly teach the claimed binder has thermoplastic behavior in the temperature range of 20 – 200 C and a thermosetting behavior above 200 C as required by claim 1 and a binder is pre-crosslinked at a temperature of up to 200 C and cures at a temperature above 200 C as required by claim 2, it is reasonable to presume that

the claimed properties are inherent to GB 1,054,877. Support for said presumption is found in the use of like materials (i.e. a binder comprising a copolymer of acrylic acid and butadiene) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed properties would obviously have been present once the GB 1,054,877 product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

9. Claims 16 – 18 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Utsumi (US 2005/0249931).

Utsumi is directed to a nonwoven fabric laminate and automotive internal trim panel (Title).

As to claims 16 - 18, Utsumi teaches a laminate comprising a rigid layer of an entanglement-based nonwoven fabric and a bulky layer of a bulky nonwoven fabric (Abstract). Utsumi teaches that the rigidity of the nonwoven fabric laminate can be enhanced by using a binder such as a styrene-acrylonitrile-butadiene copolymer or a styrene-acrylic acid ester-acrylonitrile copolymer (page 6, [0057]). The nonwoven layers may comprise binder fibers and other fibers such as wool (page 4, [0031]) (page 6, [0053]). It should be noted that the recitation of “engine compartment lining” and “engine compartment lining cover layer” are not given patentable weight at this time since the prior art meets the structural and/or chemical limitations set forth and there is nothing on record to evidence that the prior art product could not function in the desired capacity. The burden is shifted upon the Applicant to evidence the contrary. Additionally, the limitation of “reclaimed” wool is not given patentable because the act of reclaiming the wool does not have an impact on the final product as claimed. Likewise, the form

of the binder (i.e. foam) which would be dried in the final product does not have an impact on the final product as claimed.

Utsumi does not explicitly teach the claimed binder has thermoplastic behavior in the temperature range of 20 – 200 C and a thermosetting behavior above 200 C as required by claim 1, it is reasonable to presume that the claimed properties are inherent to Utsumi. Support for said presumption is found in the use of like materials (i.e. a binder comprising a styrene-acrylonitrile-butadiene copolymer or a styrene-acrylic acid ester-acrylonitrile copolymer) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property would obviously have been present once the Utsumi product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

Claim Rejections - 35 USC § 103

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horrocks et al. (US 5,645,926) in view of the article entitled “Phosphorus-Containing Epoxy for Flame Retardant: Synthesis, Thermal, and Flame-Retardant Properties” by Liu, et al.

Horrocks teaches that the phosphorus-based flame retardant may comprise ammonium polyphosphate (column 6, lines 55 – 65) whose generic formula is known in the art to be $[\text{NH}_4\text{PO}_3]_n$. Horrocks fails to teach the exact content of nitrogen and phosphorus where the elemental content of nitrogen is equal to or greater than 10% and the elemental content of phosphorus is greater than or equal to 5%.

Liu et al. is directed to flame-retardant resins (Title). Liu et al. teaches that there is a synergistic effect between phosphorus and nitrogen in flame retardancy. Liu teaches that high

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nitrogen content along with high phosphorus content help enhance the char yield and the LOI value as well as the flame retardance of the resin (page 620).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a high content phosphorus and high content nitrogen flame retardant agent as suggested by Liu in the material of Horrocks motivated by the desire to enhance the char yield, LOI value and the flame retardance of the substrate.

Horrocks in view of Liu fail to disclose that the flame retardant has a nitrogen content of equal to or greater than 10% by weight and phosphorus content of equal to or greater than 5% by weight. However, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the amount of nitrogen and phosphorus based on the desired char yield, LOI value and level of flame retardancy since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the phosphorus and nitrogen content to tailor the level of flame retardancy based on desired level of char yield and LOI value.

Response to Arguments

11. Applicant's arguments filed July 10, 2006 have been fully considered but they are not persuasive.

Applicant argues that none of the cited references disclose an engine compartment lining. As stated in the rejection, the limitation is not given patentable weight at this time since the prior art meets the structural and/or chemical limitations set forth and there is nothing on record to

evidence that the prior art product could not function in the desired capacity. The Applicant has not provided evidence. Furthermore, the Applicant has not identified what structures the claims should be limited to by recitation of “engine compartment lining” and “engine compartment cover layer” such that the prior art would distinguish. Absent, such information, the claimed invention must be read in the broad manner previously described which is not found to significantly impact the scope of the claims.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Jennifer Boyd
September 23, 2006


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